

AMENDMENTS TO THE ABSTRACT

Apparatus and methods for sensing one or more physical parameters at a remote location while minimizing or eliminating contact between reservoir fluids and the like at the remote location and the sensor used to sense the physical parameters. In one example arrangement, the
5 ~~embodiment the apparatus isolate the sensor within a tube containing the sensor. Specifically,~~
apparatus includes a tubing containing a communication cable and a sensor in communication
with the cable, the sensor being located within the tubing proximate the remote location. A
10 ~~sealing device is configured to seal a section of the tubing containing the sensor from fluid flow~~
~~within the tubing, the sealing device being configured to be actuated between a sealing state and~~
~~a non-sealing state. The apparatus further includes a communication device in fluid~~
~~communication with the remote location and the section of tubing containing the sensor. A~~
~~control line is in communication with the sealing device and is configured to actuate the sealing~~
~~device between the sealing state and the non-sealing state. In a second embodiments, the~~ The
15 ~~apparatus is configured to impose a barrier of a fluid between the sensor and the environment at~~
~~the remote location. Specifically, the latter apparatus includes a first tubing containing a~~
~~communication cable and a sensor in communication with the cable, the sensor being located~~
~~within the tubing proximate the remote location. The apparatus further includes a second tubing~~
~~having a first end in fluid communication with the first tubing proximate the sensor. A fluid~~
20 ~~barrier reservoir containing a the barrier fluid is also provided in some example arrangements,~~
~~the fluid barrier having a fist opening in fluid communication with a second end of the second~~
~~tubing, and a second opening in fluid communication with the remote location. Methods for~~
~~implementing and operating apparatus similar to the described apparatus are also provided for.~~